

Use of Internet in Health Care Research

Prof Oluwadiya KS
www.oluwadiya.com



Introduction : The internet

- Greatest advancement in information processing since the invention of the printing press
- Use of the internet has become a necessity in health care- in fact a necessary part of our lives
- The computers have changed all things



Why do research?

- To add to knowledge
- To tell what we are doing
- To solve problems
- Course requirement
- Specialization/ promotion

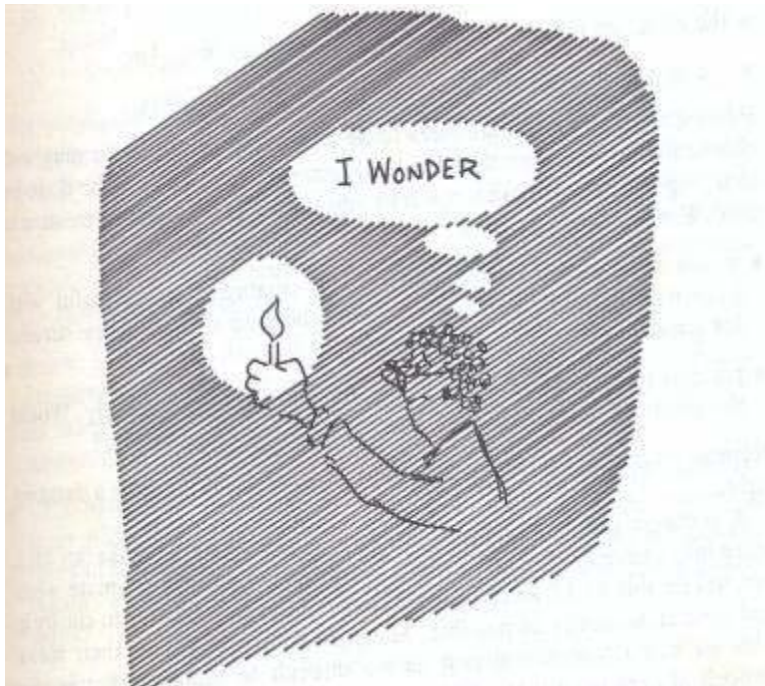
Lecturers! “publish or perish”

Basic process of research

- Topic selection
- Literature search / review
- Method / materials / fund
- Data collection
- Data analysis
- Discussion of results
- Dissemination information

Traditional way of researching:

Topic selection



Source of topic or idea

- I. Thrust upon us
- II. Nagging problem
- III. Academic readings
- IV. Brainstorming

Problem

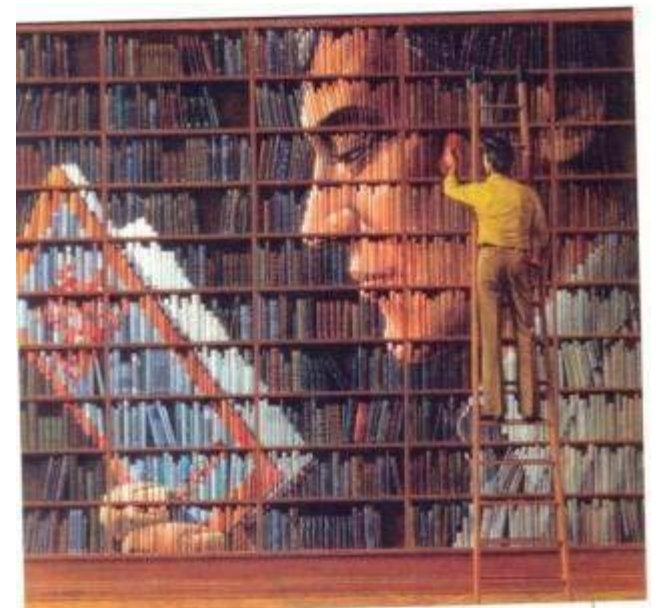
May be obsolete even as you conceive it- you are just in your small world

Traditional Literature search

Era of weeks/months of search

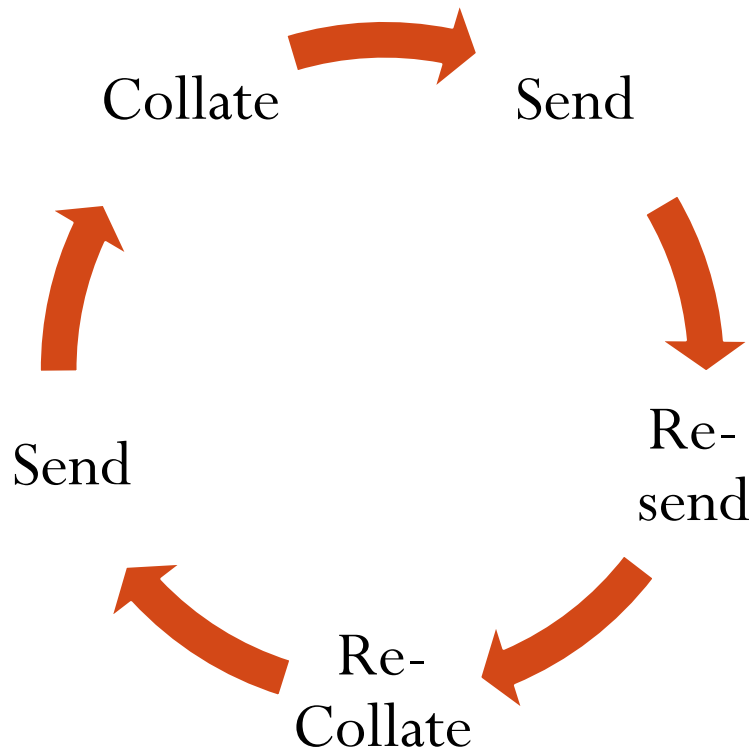
Problems

- Long hours
- How many libraries can I visit in a year?
- In what locations?
 - certainly not the world over
- Language barrier
- Paper-difficult to manage



What about group research?

- Collaboration is working together.



Back and forth.....
...cumbersome

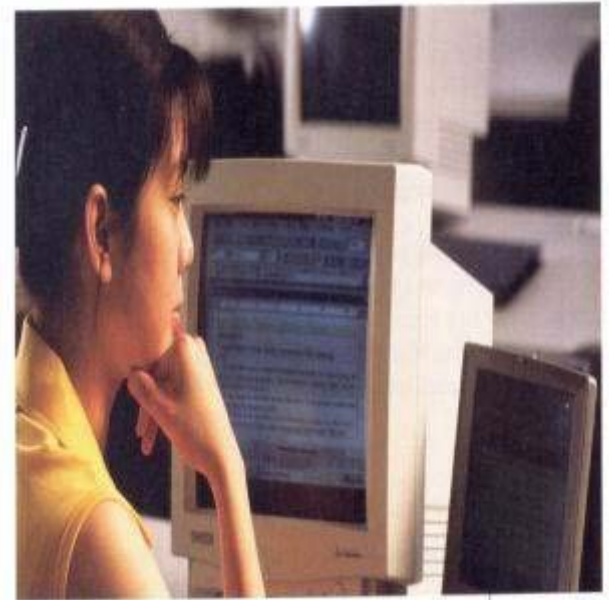
Tradition way of collaboration



- Not easy to get full house
- Questionnaire based ?— need to track down subjects —days and weeks
- Copies of manuscript — more papers still
- DHL, NIPOST to ensure it gets there
- Correction- sending back and forth. Takes weeks and months

What about using the internet?

- A. The world is a village*
- B. I can go from A to Z on my laps*
- C. I just need to know how*



LET US SEE HOW!!!

I. You will need a plan



The internet will be useful from the beginning to the end of your research



Using the internet from start to finish

- I. Choosing research topic.
- II. If you have one you can refine it . Is it hot or cold?
- III. Getting the literature-Anywhere, language not a barrier. Web based translators.
- IV. Questionnaire based – just have a site, send mails to invite subjects, etc

Using the internet from start to finish

- V. Process the data & store – Get the software or use the web
- VI. Collaborate with the world, online conferencing, webinars - remember CRASH 1 and 2
- VII. Find appropriate journals and editors, proofreaders – Google it!
- VIII. Send the manuscript - track the manuscript- review and resend and review over and over in minutes and hours, days. You are the determinant!

You will need the right tools



Basic requirement: connectivity, browsers

Computer: PCs, Tablets, Smartphones, etc

Connectivity: “everywhere you go” or “rule your world”, etc

A web browser : software for accessing internet—retrieve and present resources on the internet:

- *Internet Explorer*
- *Mozilla Firefox*
- *Chrome*
- *Opera*
- *Safari*



You will need a means of searching
the internet



Search engines and electronic libraries

SEARCH ENGINES (navigates the internet to locate information)



RETRIEVAL SYSTEMS

DATABASES: Internet repositories of data

- Medline
- Cochrane lib
- OVID
- SCORPUS
- CINAHL



Specialized Electronic Databases

- Although the topic area dictates the databases to be included, the following are common ones:
 - MEDLINE (General)
 - Cochrane Central (General)
 - EMBASE (General, more international in scope)
 - PsychLit/PsychINFO (Psychology)
 - AIDSLine (HIV/AIDS)
 - CINAHL (Nursing)
 - TOXNET (Adverse Events/Toxicology)
- Generally a minimum requirement for a thorough search of literature

You will need tools to write



Some Online Word processors



Google docs

[https://docs.google.com/?hl=en&tab=wo
&authuser=0&pli=1#home](https://docs.google.com/?hl=en&tab=wo&authuser=0&pli=1#home)



Microsoft Office 365

<http://office.microsoft.com/en-us/web-apps/>

You will need tools for data analysis



Online Statistics programs

The logo for SISA (Simple Interactive Statistical Analysis) features the letters 'SISA' in a bold, black, sans-serif font with a slight shadow effect, set against a white background.

Simple Interactive Statistical Analysis

- SISA

<http://www.quantitativeskills.com/sisa/>



- Graph pad

<http://www.graphpad.com/quickcalcs/index.cfm>

You need a place to store it all



Some online softwares and programs



- **DropBox**

<http://www.dropbox.com/>



- **Sky Drive**

<https://skydrive.live.com/>



- **Google Drive**

<https://drive.google.com/>



- **Sugarsync**

<https://www.sugarsync.com/>

- **And many, many, more**

You need a tool to ease the pains of writing your reference



Online Reference Managers

zotero

- Zotero

www.zotero.org

EndNote[®] Web
The Web-based Research & Writing Tool

- EndNote Web

www.endnote.com



- Mendeley

www.mendeley.com

An Example:

Topic: Preoperative use of analgesic in acute abdomen

just
another
example

Searching Strategy I: What, Where & Who

- Define your information need
 - What sort of information are you looking for?
 - For general consumption?
 - Scientific?
 - What sources are appropriate?
 - Journal?
 - Encyclopaedia?
 - Dictionary?
 - Textbook?
 - Newspaper etc
 - Who is going to use the information?
 - Clinician
 - Researcher
 - Student
 - The lay public?



Searching Strategy I contd.

- For our Example
 - Our information need is scientific
 - Appropriate sources will be journals and sometimes textbooks
 - We will search healthcare databases. Use PubMed, CINAHL etc
 - Who is going to use the information?
 - This is mostly for clinicians, researchers, and sometimes, students.
 - The references must be reproducible



STRATEGY 2 : Choosing your search terms

What are the key phrase /or unique words that might appear in a website or article?

PREOPERATIVE, ANALGESIC, ACUTE ABDOMEN

Are there synonyms, alternate spellings, plurals or capitals that should be considered?

PERIOPERATIVE, BEFORE OPERATION, ANALGESIA, PAIN RELIEF, SURGICAL ABDOMEN, ACUTE ABDOMEN.

Let's PubMed it!



Display Settings: Summary, 20 per page, Sorted by Default order

Send to:

Filter your results:

Results: 1 to 20 of 404

< First < Prev Page 1 of 21 Next > Last >>

All (404)

[NIH grants \(3\)](#)

[Manage Filters](#)

[Abstracts](#)

1. HPB (Oxford) 2008; 10(S1): 7-228. doi: 10.1080/13651820701867935
PMCID: PMC2225522
[Full Text](#) [PDF-2.9M](#)

Find related data

Database:

[Abstracts](#)

2. HPB (Oxford) 2006; 8(S2): 3-256. doi: 10.1080/16515320600855338
PMCID: PMC2020767
[Full Text](#) [PDF-3.4M](#)

Search details

Preoperative[All Fields] AND ("pain"[MeSH Terms] OR pain[Acknowledgments] OR pain[Figure/Table Caption] OR pain[Section Title] OR pain[Body - All Words] OR

[Does This Child Have Appendicitis?](#)

3. David G. Bundy, Julie S. Byerley, E. Allen Liles, Eliana M. Perrin, Jessica Katznelson, Henry E. Rice
JAMA. Author manuscript; available in PMC 2009 June 30.
Published in final edited form as: JAMA. 2007 July 25; 298(4): 438-451. doi: 10.1001/jama.298.4.438
PMCID: PMC2703737
[Abstract](#) [Full Text](#) [PDF-352K](#)

[See more...](#)

[Asymptomatic Meckel's Diverticulum in Adults: Is Diverticulectomy Indicated?](#)

DATA COLLECTION: Online

Firefox

Medical Questionnaire - Online Surve... x hip and fracture not trauma - Google... x +

AntiPhishing

www.surveyconsole.com/medical-questionnaire.html

Google

Online Surveys Made Easy

UNLIMITED Surveys, UNLIMITED Responses, Easy to Use

Email Address:

Get Started >>

or [Take a Tour](#)

Medical Questionnaire


SurveyConsole provides services for creating customized online surveys, distributing them via the internet or email, and tabulating results automatically in real time. Your surveys and survey results are hosted on our servers. SurveyConsole does not require the download or installation of any software or hardware.

SurveyConsole offers all of the advanced features of many other online survey providers at a fraction of the PRICE.

Your System Status

WE'RE SORRY!

WRITING UP/ GROUP REVIEW: Online



The image shows a screenshot of a Firefox browser window displaying the Microsoft Office Live website. The browser's address bar shows the URL www.officelive.com/en-us/. The website features a yellow and orange header with the Microsoft Office Live logo and a "Sign in" button for existing users. The main content area is titled "Access, Edit, and Share Documents from Anywhere" and "Office Web Apps on SkyDrive". It includes three columns of text and icons: a globe icon for "View and edit Office documents from virtually anywhere you're online", a computer monitor icon for "Share and work together on documents", and icons for Word, PowerPoint, and Excel for "Works with Office programs you know and use". A prominent green button with a right-pointing arrow says "GET STARTED FREE", with a "Learn more" link below it. At the bottom, a section is titled "Announcing Microsoft Office 365".

Firefox

Dropbox - Downloading Dropbox - Si... x

Share Documents and Files Online | ... x

AntiPhishing

www.officelive.com/en-us/

Google

United States (change)

Already have a Microsoft Office Live account? [Sign in](#)

Access, Edit, and Share Documents from Anywhere

Office Web Apps on SkyDrive

 View and edit Office documents from virtually anywhere you're online

 Share and work together on documents

 Works with Office programs you know and use

[GET STARTED FREE](#)




[Learn more](#)

Announcing Microsoft Office 365

STORAGE : Online

The image shows a screenshot of a web browser displaying the Dropbox website. The browser's address bar shows the URL <https://www.dropbox.com/referrals/NTMwNDg5NDIwOQ?src=global9>. The page features a large blue heading "Welcome to Dropbox!" followed by the tagline "Always have your stuff, wherever you are." Below this, there are two main sections: "What you can do with Dropbox" and "Create a Free Dropbox Account".

What you can do with Dropbox

-  Sync files across computers
-  Access files online from anywhere
-  Share and collaborate with others

Want to learn more? Check out our tour.

Create a Free Dropbox Account

First name

Last name

Email

Password

[So-so](#) ⓘ

I agree to Dropbox Terms of Service

[Create account](#)

CHOOSING YOUR JOURNAL: Online

The screenshot shows a Firefox browser window with the URL www.journalonweb.com/amhsr/. The page title is "Annals of Medical and Health Sciences Research" and it is described as an "Online manuscript submission and review system".

Wolters Kluwer Health and **Medknow** logos are visible in the top right corner.

Login section:

- Username:
- Password:
- Remember my information
- Roles: Author Editor/Editor-In-Chief Referee/Reviewer Admin
- Links: [Login](#) [New author registration](#) [Forgot password?](#)

About the system

- Manuscripts can be received and processed any time and from anywhere
- Mobile / SMS alerts
- Automated e-mail notifications
- Authors, Editors and reviewers can work from any PC
- Decreased time in peer review and processing of submitted manuscripts
- Reference checking and plagiarism check tools

[Click here to read more >>](#)

Author side fee and statistics

Submission or publication fee	Nil
Color reproduction fee	Nil
Reprint charges	Optional, not complimentary
Acceptance rate for 2012	36%

For details on various publication fees please check the [instructions for authors](#)

Abstracting and Indexing information

African Index Medicus, Caspar, CNKI (China National Knowledge Infrastructure), EBSCO Publishing's Electronic Databases, Expanded Academic ASAP, Genamics JournalSeek, Google Scholar, Index Copernicus, National Science Library, OpenJGate, PrimoCentral, ProQuest, PubMed, Pubmed Central, SCOLAR, SIIC databases, Summon by Serial Solutions, Ulrich's International Periodical Directory

Latest published articles...

- [Electromagnetic energy radiated from mobile phone alters electrocardiographic records of patients with ischemic heart disease](#)
AH Alhusseiny, MS Al-Nimer, AD Majeed
Ann Med Health Sci Res 2012;2/2. doi:10.4103/2141-9248.105662

www.medknow.com

SEND FOR PUBLICATION AND MONITOR: Online

The screenshot shows a Firefox browser window with several tabs open, including an email inbox and the journal's website. The website is for the Annals of Medical and Health Sciences Research, an online manuscript submission and review system. The page features a login section with fields for username and password, and radio buttons for selecting the user role (Author, Editor, Referee, or Admin). There are also links for new author registration and password recovery. A section titled 'About the system' lists benefits such as 24/7 access, SMS alerts, and automated notifications. A table provides details on author fees and statistics, including a 36% acceptance rate for 2012. The page also includes a sidebar with navigation links and a list of abstracting and indexing services. At the bottom, there is a section for the latest published articles, with one article highlighted regarding electromagnetic energy and heart disease.

Annals of Medical and Health Sciences Research
Online manuscript submission and review system

Login

Username: oluwadiyakehinde Password: [REDACTED]

Remember my information

Author Editor/Editor-In-Chief Referee/Reviewer Admin

[Login](#) [New author registration](#) | [Forgot password?](#)

About the system

- Manuscripts can be received and processed any time and from anywhere
- Mobile / SMS alerts
- Automated e-mail notifications
- Authors, Editors and reviewers can work from any PC
- Decreased time in peer review and processing of submitted manuscripts
- Reference checking and plagiarism check tools

[Click here to read more >>](#)

Author side fee and statistics

Submission or publication fee	Nil
Color reproduction fee	Nil
Reprint charges	Optional, not complimentary
Acceptance rate for 2012	36%

For details on various publication fees please check the [instructions for authors](#)

Abstracting and Indexing information

African Index Medicus, Caspar, CNKI (China National Knowledge Infrastructure), EBSCO Publishing's Electronic Databases, Expanded Academic ASAP, Genamics JournalSeek, Google Scholar, Index Copernicus, National Science Library, OpenJGate, PrimoCentral, ProQuest, PubMed, Pubmed Central, SCOLAR, SIIC databases, Summon by Serial Solutions, Ulrich's International Periodical Directory

Latest published articles...

- [Electromagnetic energy radiated from mobile phone alters electrocardiographic records of patients with ischemic heart disease](#)
AH Alhusseiny, MS Al-Nimer, AD Majeed
Ann Med Health Sci Res 2012;2/2. doi:10.4103/2141-9248.105662

WHEN YOU DO EVERYTHING ONLINE

- **Cloud Computing:** Using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or personal computer .



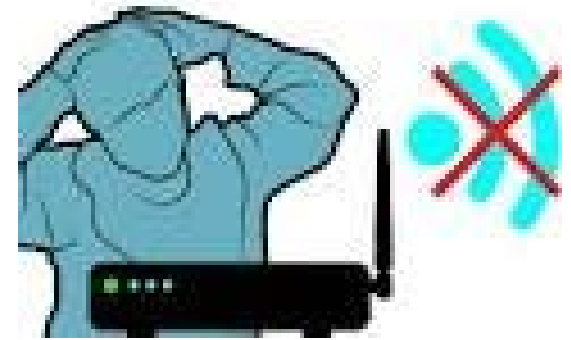
EVERY METHOD HAS ITS PROBLEMS

- ❑ Uncensored information- anybody can publish anything
- ❑ Information overload
- ❑ Questionnaire based- any body can pose, debriefing difficult
- ❑ Questionnaire based- DROPOUT rate higher and you won't know why!
- ❑ Expensive to remain online
- ❑ Plagiarism so much easier
- ❑ Not everything is online and not all are searched, it depends on the reaches of your search engine
- ❑ Malwares: Virus! Trojans!! Rootkits!!!:
- ❑ INTERNET ACCESS – OUR OWN NO 1 PROBLEM

DRAW BACK 1 - CONNECTIVITY

Our own problems are – “everywhere you go”, “rule your world”, “your worst connection to the world”

→ beyond the common man/reasonable bandwidth expensive



Out there- it's expensive to organization to maintain libraries and networks, connectivity, IT staffs etc

→ competition will make it cheaper

DRAW BACK 2- INFORMATION OVERLOAD, managing your search



- Select website,
- Use filters/limits on search engines- age, sex, author, year, journal
- Specific key words
- Arrange in order of importance-the browser will follow you
- Boolean logic,
- Use quotation marks- for phrases
- You may need special search characters- truncators, wildcards etc

Example : hip fracture

Google....Browses the whole internet....Lots of hits

HIP AND FRACTURE - Google Search - Microsoft Internet Explorer provided by East Lancashire Hospitals

File Edit View Favorites Tools Help

Address <http://www.google.co.uk/search?hl=en&q=HIP+AND+FRACTURE&btnG=Google+Search&meta=>

Google

Web Images News Maps ^{Now!} Froogle Groups [more..](#)

HIP AND FRACTURE [Advanced Search](#)
[Preferences](#)

Search: the web pages from the UK
The "AND" operator is unnecessary -- we include all search terms by default. [\[details\]](#)

Web

Results 1 - 10 of about 1,280,000 for **HIP AND FRACTURE**. (0.14 seconds)

Tip: Save time by hitting the return key instead of clicking on "search"

[Broken Hip - Hip Fracture](#)
A **hip fracture**, also called a broken **hip**, is an unfortunate, but common injury. **Hip** fractures most often occur in elderly patients and are the result of ...
orthopedics.about.com/cs/hipurgery/a/brokenhip.htm - 27k - [Cached](#) - [Similar pages](#)

[Hip fracture - Wikipedia, the free encyclopedia](#)
The term "**hip fracture**" is commonly used to refer to four different **fracture** patterns and is often due to osteoporosis; in the vast majority of cases, ...
en.wikipedia.org/wiki/Hip_fracture - 30k - [Cached](#) - [Similar pages](#)

[Hip Fracture](#)
A **hip fracture** is a break near the top of your thighbone (femur) where it angles into your **hip** socket. When you break your **hip**, it usually hurts too much to ...
orthoinfo.aaos.org/fact/thr_report.cfm?Thread_ID=229 - 10k - [Cached](#) - [Similar pages](#)

From PubMed....Browses medline...more focused results

Firefox | information overload - Google Search | pubmed - Google Search | hip AND fracture - PubMed - NCBI | New Tab

www.ncbi.nlm.nih.gov/pubmed/?term=hip+AND+fracture

Most Visited | Getting Started | Suggested Sites | Web Slice Gallery | Camtasia Studio - CNE... | New Tab

RoboForm | Search | Logins | Bookmarks | (logins) | DR. Oluwadiya KS | Kehinde | Save | Generate | Sync

NCBI Resources | How To

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed | hip AND fracture

RSS | Save search | Advanced

Show additional filters

Display Settings: Summary, 20 per page, Sorted by Recently Added

Send to:

Results: 1 to 20 of 23865

<< First | < Prev | Page 1 of 1194 | Next > | Last >>

[Serum metalloproteinases 2 and 9 as predictors of gait status, pressure ulcer and mortality after hip fracture.](#)
1. Gumieiro DN, Rafacho BP, Gonçalves AF, Santos PP, Azevedo PS, Zornoff LA, Pereira GJ, Matsubara LS, Paiva SA, Minicucci MF.
PLoS One. 2013;8(2):e57424. doi: 10.1371/journal.pone.0057424. Epub 2013 Feb 20.
PMID: 23437384 [PubMed - in process] **Free Article**

[Higher fish intake is associated with a lower risk of hip fractures in chinese men and women: a matched case-control study.](#)
2. Fan F, Xue WQ, Wu BH, He MG, Xie HL, Ouyang WF, Tu SL, Chen YM.
PLoS One. 2013;8(2):e56849. doi: 10.1371/journal.pone.0056849. Epub 2013 Feb 20.
PMID: 23437256 [PubMed - in process] **Free Article**

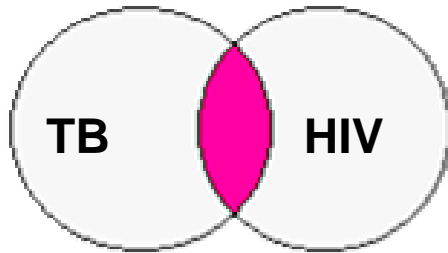
Article types
Clinical Trial
Review
more ...

Text availability
Abstract available
Free full text available
Full text available

Publication dates
5 years
10 years
Custom range...

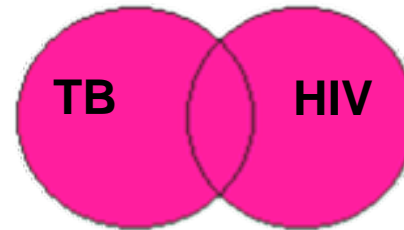
Boolean operators

AND



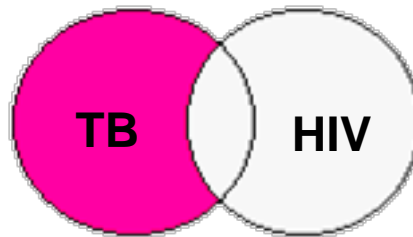
Tuberculosis
AND HIV

OR



Tuberculosis **OR**
HIV

NOT



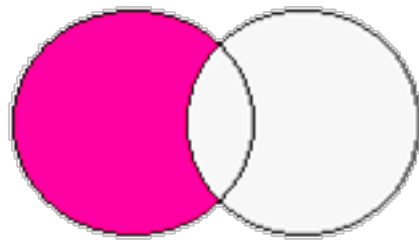
Tuberculosis **NOT** HIV

Boolean Operators: Caution

BE CAREFUL

“NOT”

can weed out good resources

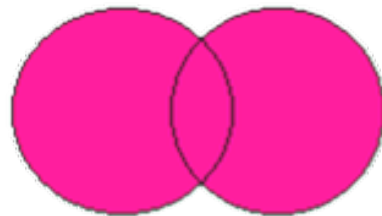


Boolean Operators: Caution

DON'T GRAB IT ALL

“OR”

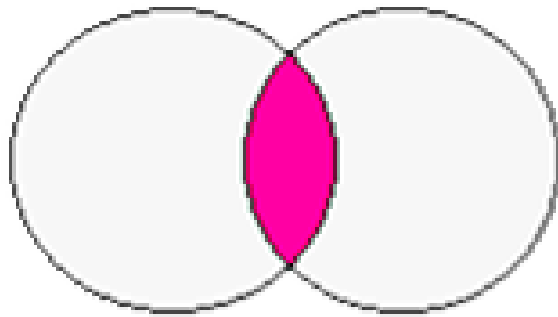
CAN BRING UP LOTS OF JUNKS



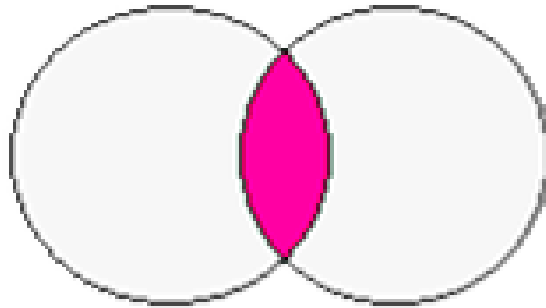
Boolean Operators: Caution

WHEN IN DOUBT

USE **“AND”**



“AND” is the default operator
used in PUBMED



Boolean Operators Hints

- ▶ Think about other terms which mean the same i.e. synonyms, or related terms. Use **“OR”**
- ▶ Remember alternative spellings e.g. US vs British. Use **“OR”**
- ▶ For different key words, use **“AND”**

AND

AND

OR

Paediatric*	Treatment	Developing world
Pediatric*	Therapy	3 rd World countries
Children		

OR

Advanced Searching Techniques -Tips

Truncation and missing characters, Wild Cards:

* or \$ is inserted to find all alternative endings of a word

neoplas* → neoplasm OR neoplastic OR neoplasia

staph\$ will search for information on staphylococcus OR staphylococcal OR staphylococci

● **?** can be used to substitute for a single letter anywhere in a word for alternatives

● **wom?n** would search for “woman” and “women”

Advanced Searching Techniques -Tips

- “/” — means all subheadings are searched
 - When a search term is entered, you can selectively choose some subheadings (such as pharmacology for pharmacology studies).
 - Subheadings are generally imprecise; accepting all subheadings increases the yield.
- “adj” — cuts down on miscellaneous citations
 - “Heart adj failure” would find only instances in which “heart” is next to “failure.”
- “.ti” or “.ab” — searches in the title or abstract for the word of interest
 - Can find citations where the word you search for is not a keyword
- “.mp” or multiple posting — a text word search; does not need to be a key word

DRAW BACK 3: Uncensored information

Consider the follow to select websites or information

- Branded VS Unbranded site
- Individual VS Organization or institution
- Dated VS Undated
- Daily updated VS Redundant or once yearly
- Referenced VS Unreferenced information
- Primary source VS “Secondary” or “Tertiary source”
- Provision of links to related sites VS No links, No contact info

DRAW BACK 4: Web based questionnaire

- Posers –sex posers, impostors, liars, multiple enteries difficult to manage
- Debriefing before collecting information difficult to manage
- Drop out rates- high , and you wont even know why
- Virus- major problem- may not affect your data directly but may disrupt the server → ANTIVIRUS

DRAW BACK 5: Plagiarism – SO EASY

- ❑ **In part** – cut and past and tie together- that's all
- ❑ **In totality**- get in another language- translate- put your signature – paper is ready
- ❑ **Solution** - Anti plagiarism software



Summary: you cannot fully achieve your potential as a researcher without the net

Sky is the limit



- More than 5000 journals
- Thousands of books
- Millions of sites
- Unlimited resources
- More than 70 countries
- Generate own library

All In a few clicks !!!

This is just the hors d'oeuvre.



The main course is on its way

Thanks for your attention.

To ask questions, join the forum at
www.oluwadiya.com

